REMARKS

Claims 1-28 are all the claims pending in the application. Claims 1-24 presently stand rejected. By this Amendment, Applicant amends independent claims 1, 2, 6, 11, 13, and 18 to further clarify the invention. These amendments are clearly supported throughout the specification *e.g.*, ¶¶ 22 to 25.

In addition, Applicant adds claims 25-28. Claim 25-28 are clearly supported throughout the specification *e.g.*, ¶¶ 22-24 of the specification.

Summary of the Office Action

Prosecution has been reopened in view of the Appeal Brief filed on March 11, 2005. The Examiner withdrew the previous grounds for rejection. The Examiner, however, found new grounds for rejecting the claims. Specifically, claims 1-3, 9-12, and 16-20 stand rejected under 35 U.S.C. § 102(b) and claims 4-7, 13-15, and 21-24 are rejected under 35 U.S.C. § 103(a).

Claim Rejections under § 102(b)

Claims 1-3, 9-12 and 16-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Lin et al. "Asynchronous Remote Procedure Call System for Heterogeneous Programming", IEEE, 1991 (hereinafter "Lin"). Applicant respectfully traverses this rejection in view of the following comments.

Claim 1, among a number of unique features, requires: "at least one user-specified parameter to identify a call... an asynchronous transmission channel transmitting data between the local data processing device and the remote data processing device." The Examiner alleges

that claim 1 is directed to a system for transmitting data and is anticipated by Lin. Specifically, the Examiner alleges that Fig. 2 of Lin discloses the asynchronous transmission as set forth in claim 1 and that Lin's header is equivalent to the parameter as set forth in claim 1. Applicant respectfully disagrees. Applicant has carefully studied Lin's disclosure of asynchronous remote process calls (RPCs) with headers and Applicant respectfully submits that Lin fails to teach or suggest asynchronous transmission of the RPCs and the headers being a user-specified parameter.

According to an exemplary, non-limiting embodiment of the present invention, the transmission between the local and remote processing devices is asynchronous. That is, in the examplary embodiment of the present invention, there is no need to block transmission until the previously sent data is received. The local data processing device puts process relevant data (at least one user-specified parameter to identify a call sent by the first program) for the second program of the remote data processing device into the assigned memory for the user-specified parameter for the remote data processing device. Whenever (after the request) the remote data processing device has used the data of the assigned memory and produced results based on that data, it sends the response data to the local data processing device. The local data processing device can access the response data whenever it is ready to do so.

The parameter is implemented with IDL. Interfaces are defined as a collection of functions that belong together, by using IDL. If within an interface a function is identified by a number and since the asynchronous RPC is made directly available to the user, the user can predefine or specify a parameter for ID.

It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claims recited above.

Lin, on the other hand, discloses a system of synchronized transmission with an asynchronous processing or an asynchronous RPC. Synchronized transmission includes some sort of coordination in transmission of data from one device to another device and vise versa. Lin discloses a technique where a timeout condition is used to determine the required steps to be carried out. The condition is based on a time slice which is provided by the system. Whenever the time slice expires, the system switches operations (Fig. 5 and page 155, left column, last paragraph).

To explain this timeout technique, Lin discloses that when the server starts to monitor the input port for incoming calls, the time slice begins. After the time slice expires, the server transfers the control to the W structure for processing and sending out the calls which arrived previously. By the time the server stops monitoring the incoming messages, the control is switched to the server dispatcher for dispatching the calls on the W queue (page 155, right column last paragraph).

That is, in Lin, the transmission of the above described system is clearly synchronized in that machine A will send in a predetermined time period and machine B will receive in this predetermined time period. Then, a timeout occurs and the machine B will send responses and machine A will receive these responses. Clearly, in Lin, a common clock is required between the machine A and machine B. Accordingly, the transmission between these devices is

synchronous as the timing periods are only rearranged as a pipeline (Fig. 2, page 154, left column last paragraph and right column, first full paragraph).

In other words, Lin uses a direct transmission line where the remote data processing device is blocked for the purpose of establishing and using the direct line to the requesting local data processing device. The blocking is released when the remote data processing device has finished working on the request and has returned the response data to the local data processing device.

By way of an example, Applicant provides an analogy of two attendants in an information booth. Assume that the two attendants are the two communicating data processing devices. Each attendant has a stack of papers in front of him, which, for the purpose of this analogy is equated to memory of each respective device. The attendands are helping various customers to some information but also need to communicate with each other at times. A meeting between both attendants may be scheduled in the following two ways.

One approach is to have the first attendant pass a piece of paper to the second attendant. When the second attendant receives this piece of paper, the second attnedant blocks the customer requests and communicates with the first attendant to determine the most convinient time for the meeting. During this communication, the second attendant may review information that relates to the scheduling of a meeting (dependent data). This approach is the approach disclosed in Lin.

Another approach is to have the first attendant place a piece of paper with the date of a proposed date and time of the meeting into a stack of papers without directly talking to the second attendant. Both proceed with their work with customers. When the second attendant gets to this piece of paper, he writes whether the date and time are acceptable or proposes a different

date and time and puts this piece of paper in the stack of papers of the first attendant. Accordingly, no blocking occurs and the communication is asynchronous.

In short, Lin simply tries to optimize the synchronous scheme by grouping requests together and grouping responses together, as opposed to sending them one by one (Fig. 2). In other words, in Lin, a group of RPCs are received and a group of responses are sent back. Accordingly, each device A and B may asynchronously process the calls and/or responses because they are transmitted in groups (page 155, left column, first and second full paragraphs). With respect to the transmission, however, in Lin, direct synchronous communication is used because timeouts block the devices from transmitting, receiving, or processing data at a particular point in time.

With respect to a response to a request, Lin describes only how the system matches a request to a received response, and as such carries out a control. There is no disclosure in Lin about how this response (and the possible parameters) is sent asynchronously to the application. Lin covers up the asynchronaity through the system and makes it appear synchronous. Lin fails to teach or suggest an application observing the asynchronous transmission of the RPCs and at the same time being user friendly. For example, Lin's approach cannot be used in the field of automation technology, where the asynchronous transmissions must be visible because otherwise a deterministic behavior cannot be programmed. In short, Lin fails to teach or suggest making the asynchronous nature of the system visible.

Moreover, in Lin, the header is build up from a machine-ID, a program-ID, a dependency-ID, and a local timestamp (page 155, second paragraph). As a result, a value is created that can uniquely identify an RPC. However, Lin's header is not user-specified. That is,

in Lin, the headers are not made available or visible to the user and as such cannot be specified by the user.

Therefore," at least one user-specified parameter to identify a call...an asynchronous transmission channel transmitting data between the local data processing device and the remote data processing device," as set forth in claim 1 is not disclosed by Lin, which lacks having an asynchronous transmission channel and a header specified by the user within the meaning of claim 1. For at least this exemplary reason, Applicant respectfully submits that claim 1 is patentably distinguishable from Lin. Therefore, Applicant respectfully requests the Examiner to withdraw this rejection of claim 1.

Independent claims 11 and 18 recite features that are analogous to the features argued above with respect to claim 1. Therefore, for at least analogous reasons, claims 11 and 18 are patentably distinguishable from Lin. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claims 11 and 18.

Claims 2, 3, 9, 10, 12, 16, 17, 19, and 20 are patentable at least by virtue of their dependency on claim 1, 11, or 18.

Claim Rejections under § 103(a)

Claims 4-8, 13-15, and 21-24 are rejected under 35 U.S.C. § 103(a). Applicant respectfully traverses this rejection in view of the following comments.

Claims 4, 5, and 21

Claims 4, 5, and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin in view of U.S. Patent No. 6,587,122 to King (hereinafter "King"). Claims 4, 5, and 21 depend on claim 1 or 18. Applicant has already demonstrated that Lin does not teach or suggest all of

the unique features of claims 1 and 18. King is being cited only for its teaching of having a system in the field of automation technology (*see* page 5 of the Office Action) and as such clearly fails to cure the deficient teachings of Lin. Together, the combined teachings of Lin and King would not have and could not have led an artisan of ordinary skill in the art to achieve the subject matter of claims 1 and 18. Accordingly, claims 4, 5, and 21 are patentable at least by virtue of their dependency.

Moreover, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine the two references "to provide for a distributed automated system for faster processing and control of industrial systems" (see page 5 of the Office Action). Applicant respectfully submits, however, that the relevance of King with respect to Lin is not understood and that one of ordinary skill in the art would not have been motivated to combine these two very different references in the manner suggested by the Examiner.

Lin relates to asynchronous RPCs in a heterogeneous programming and has nothing to do with the distributed automated systems. King discloses a system for displaying instruction syntax help information to a user as instructions are entered into an editor or other tool. The instruction syntax is presented with the next parameter in the instruction highlighted to prompt the user for entry of that parameter. A database of instructions and their syntax is provided to facilitate efficient search and retrieval of the instruction syntax for each instruction of the language (*see* Abstract).

One of ordinary skilled in the art confronted with a problem of communication between various programs written in different languages would not have turned to an unrelated reference such as King, which deals with a display of syntax instructions. These two references are from

different field of endeavor and address different problems. Moreover, it is at the very least unclear how applying the technique of Lin to displaying syntax of instructions, as taught by King, would speed up the control of the industrial system. Finally, in Lin, the asynchronous nature of the requests is hidden. As a result, if Lin were to be implemented in the field of automation technology, deterministic behavior could not have been programmed.

In short, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine the two references in the manner suggested by the Examiner. For at least this additional exemplary reason, claims 4, 5, and 21 are patentable over Lin in view of King.

Claims 6, 13, and 22

Claims 6, 13, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin in view of U.S. Patent No. 6,148,290 to Dan et al. (hereinafter "Dan"). Applicant respectfully traverses this rejection.

Claims 6, 13, and 22 depend on claim 1, 11, and 18, respectively. Applicant has already demonstrated that Lin does not teach or suggest all of the unique features of claims 1, 11, and 18. Dan is being cited only for its teaching of having an IDL (*see* page 6 of the Office Action) and as such clearly fails to cure the deficient teachings of Lin. Together, the combined teachings of Lin and Dan would not have and could not have led one of ordinary skill in the art to achieve the subject matter of claims 1, 11, and 18. Accordingly, claims 6, 13, and 22 are patentable at least by virtue of their dependency.

Moreover, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine the references to create a standard between the two programs (*see* page 6

of the Office Action). Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness at least because the Examiner failed to provide motivation for applying IDL to Lin's process ID stored in the header (alleged parameter). Moreover, Applicant respectfully submits that it is at the very least unclear how Lin's process ID stored in the header of the packet may be programmed with IDL. Moreover, since the header with the process ID of Lin is used (recognized and matched up) by the client only to identify responses corresponding to the requests, coding the process ID in the IDL would not help to create a standard between the two programs.

In short, one of ordinary skill in the art would not have been motivated to combine these two very different references. For at least these additional reasons, Applicant respectfully submits that claims 6, 13, and 22 are patentable over the combined teachings of Lin and Dan.

Claims 7, 8, 14, 15, 23, and 24

Claims 7, 8, 14, 15, 23, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin in view of U.S. Patent No. 6,430,570 to Judge et al. (hereinafter "Judge"). Claims 7-8, 14-15, and 23-24 depend on claims 1, 11, and 18, respectively. Applicant has already demonstrated that Lin does not teach or suggest all of the unique features of claims 1, 11, and 18. Judge is being cited only for its teaching of having an embedded system with client applications (*see* page 7 of the Office Action) and as such clearly fails to cure the deficient teachings of Lin. Together, the combined teachings of Lin and Judge would not have and could not have led an artisan of ordinary skill in the art to achieve the subject matter of claims 1, 11, and 18. Accordingly, claims 6, 13, and 22 are patentable at least by virtue of their dependency.

Moreover, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine the references to reduce the overhead (*see* page 7 of the Office Action). Applicant respectfully submits that the Examiner is exercising impermissible hindsight in an attempt to somehow meet the unique features of the invention as claimed.

That is, Lin simply relates to a method of communicating in a heterogeneous programming environment and Judge relates to managing applications in an embedded device (*see* col. 2, lines 29 to 42). Lin deals with providing a faster processing technique and Judge deals with control and management of the application. However, neither Lin nor Judge suggests reducing overhead. In fact, it is the Applicant's disclosure that states the problem of high overhead (¶ 10 of the specification) and suggested simplifying the technique and reduce the overhead (¶¶ 11 and 15). That is, Applicant's teachings are being used against the Applicant. In short, it is respectfully submitted that but for the present invention one of ordinary skill in the art would not have been motivated to combine the references in the manner suggested by the Examiner. Therefore, the provided motivation for combining the references is an exercise of impermissible hindsight.

In short, one of ordinary skill in the art would not have been motivated to combine these two very different references in the manner suggested by the Examiner. For at least these additional exemplary reasons, Applicant respectfully submits that claims 7, 8, 14, 15, 23, and 24 are patentable over the combined teachings of Lin and Judge.

New Claims

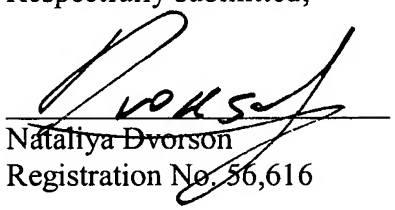
In order to provide more varied protection, Applicant adds claims 25-28. Claims 25-28 are patentable at least by virtue of their dependency on claim 1.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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